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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/581,185	01/17/2001	Kevin Dewar	P65633US0	1264

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EXAMINER

HOANG, THAI D

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/581,185

Applicant(s)

DEWAR ET AL.

Examiner

Thai D Hoang

Art Unit

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Application filed on 01/17/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-19 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/13/2000</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The statements "PTIs" and "GCRA" recited in the claims 16 and 17 respectively are not clear. It is confusing what is meant by "PTIs" and "GCRA".

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-9 and 12-19 are rejected under 35 U.S.C. 102(e) as being unpatentable by Hauser et al., US Patent No. 6,426,957 B1, hereafter referred to as Hauser.

Regarding claims 1-2, Hauser discloses an ATM based service consolidation switch (see figures 1-5). Hauser discloses that the switch comprises line interfaces 24, data serial interface to connect with an ATM network (fig. 2a, element 102, fig. 3, element 120 and fig. 4, element 312) and a cell flow processor 28, wherein the processor 28 comprising:

- a segmentation and reassembly (SAR) interface for communicating with SAR unit 112, fig. 2a (the processing means comprises a segmentation and reassembly (SAR) interface);

- a cell queue manager 226 for transmitting ATM cells to line interfaces 24 via UTOPIA 224 and SAR 112 according to the header of the ATM cells (the processing means comprises a queueing function (12) comprising means for controlling transfer of cells to the line interface (15) and to the SAR interface (25) according to the cell headers);

- input cell processor 302 and VXT lookup table 304 for changing cell headers input from line interfaces 24 through UTOPIA 300 for transmitting to the ATM switch 30 via data serial interface 312 (the processing means further comprises a mapping function (16) comprising means for changing cell headers during transfer from the line interface (15) to the backplane interface (11) according to mapped cell destinations)

Regarding claim 3, Hauser discloses the cell flow processor 28 comprises a cell buffer interface 310 that connects with an external cell buffer 128, wherein the cells in

the buffer are controlled by cell queue manager 308, see fig. 4 (the processing means further comprises a cell memory controller (13) for interfacing with an external cell memory, and the queueing function (12) comprises means for accessing a cell memory via said controller (13)).

Regarding claim 4, Hauser discloses the cell flow processor 28 comprises a CRAM interface 314 that connects with an external memory 130, wherein the cells in the buffer are controlled by cell queue manager 308, see fig. 4 (the processing means further comprises a control memory controller (14) for interfacing with an external control memory, and the queueing function (12) comprises means for accessing a control memory via said controller (14)).

Regarding claim 5, the cell queue manager 308 disclosed in the Hauser' system inherently comprises dequeue function for dequeueing from the cell buffer 128 and for tracking the cell using pointer information received from control RAM 130 and pointer RAM 132, see fig. 4 (the queueing function (12) comprises means for dequeueing from a cell memory and for tracking the cells using pointer information retrieved from a control memory).

Regarding claims 7-9, Hauser disclose that the processor 28 comprises VXT lookup 304 that control VPI/VCI of the ATM cells col. 8, lines 37-59; therefore, the cell queue manager 308 must have a means for managing path based on the information of the VXT lookup 304 and control RAM 130 (the queueing function (12) comprises means for managing path descriptor tables (30) in a control memory).

Regarding claim 12, Hauser discloses cell queue manager 308 control cell in the buffer 128 by using pointer information received from control RAM 130 and pointer RAM 132 col. 8, lines 37-59. It indicates that the cell queue manager comprises means for maintaining a plurality of queue by maintaining a set of pointers programmed.

Regarding claim 13, Hauser teaches that the processor 28 checks incoming cell headers and convert the cells into the internal cell format, col. 8, lines 26-36 (the mapping function (16) comprises means for adding an additional header to a cell for internal control signaling).

Regarding claim 14, Hauser teaches that the incoming cells are verified for passing to the switch 30 or dropping; col. 8, lines 26-59 (the mapping function (16) comprises means for passing cells to the queueing function (12), for passing cells to the backplane interface (11), and for dropping cells).

Regarding 15, Hauser teaches that the VXT 304 performs mapping function between the incoming cells with the tables in the RM 130, col. 8, lines 36-40 (the mapping function (16) comprises means for maintaining tables in a control memory).

Regarding claim 16, as best understood, Hauser teaches that the system comprises a statistic unit 336, and a statistic is updated if an invalidated cell is dropped; col. 8, lines 40-59 (he tables comprise a per port statistics table storing data indicating the numbers of cells with invalid and disabled VPI/VCIs and with unsupported PTIs).

Regarding claim 17, Hauser discloses the processor 28 performs the step of: mapping descriptor 9 (col. 6, lines 14-17; col. col. 8, lines 36-50); counting received cells (col. 12, lines 54-56); and counting dropped cells (col. 8, lines 58-59) (the tables

comprise a VCC connection table containing the following information on a per connection basis: mapping descriptor, received cell count, dropped cell count, and GCRA words).

Regarding claims 18-19, Hauser teaches that the processor 28 comprises a dynamic bandwidth manager 328 and a bandwidth arbiter 326, which monitor traffic characteristics in order to allocate a bandwidth for transmission, col. 17, line 13-col. 24, line 34 (the processing means further comprises a policing function (17) comprising means for monitoring traffic characteristics).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hauser as shown above.

Regarding claim 10, Hauser in figure 6 a plurality of queues, wherein each queue has queues size and queue pointer to indicate the location of the queue. Hauser does not explicitly disclose a matrix memory structure for storing theses queue. However, the memory in a matrix structure is well-known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the matrix memory in order to manage the plurality of ATM cell queues in the system.

***Allowable Subject Matter***

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to the application:

US Patent No. 6,249,528 B1, Kothary discloses, "Network switch providing per virtual channel queuing for segmentation and reassembly."

US Patent No. 6,137,798 A, Nishihara et al discloses "Connectionless network for routing cells with connectionless address, VPI and packet-identifying VCI."

US Patent No. 5,956,344 A, Cole discloses "Interprocessor communications in an ATM environment."

US Patent No. 5,867,677 A, Tsukamoto discloses "Switching adapter and method for a computer system."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (571) 272-3184. The examiner can normally be reached on Monday-Friday 10:00am-18:30pm.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thai Hoang

KWANG BIN YAO  
PRIMARY EXAMINER

